



Automation Testing for Optimized Defect Management

A leading provider of technological solutions for the transportation industry needed help with its QA resource crunch. Know how XTGlobal helped the company automate its testing, achieving a defect removal efficiency of over 98% and a 30% reduction in estimated costs.

OVERVIEW

The client is a leading provider of innovative technological solutions for toll authorities in the United States, helping to process over 2 billion toll transactions annually. They design and develop roadside solutions, congestion management solutions and back office products to help communities address their traffic management challenges. The client has a suite of enterprise roadside solutions and business applications that incorporate high-level process automation to streamline both onsite as well as remote maintenance and back office activities.

CLIENT SITUATION

The client uses a combination of advanced and latest technologies such as IoT, ML and AI that are powered by cloud infrastructure and software. With demand for mainstream technologies such as real-time event streaming, COTS and open-source, IoT and cloud and edge computing, the client has to stay in top gear in order to stay relevant in the face of competition.

BUSINESS NEED

The client wanted to reduce operating costs while improving efficiency in terms of its IT and QA capabilities. Continuous process improvement could be possible only by having a consistent testing process and tools in place. XTGlobal's involvement included development of a consistent formal processes, approach, metrics collection and reporting system as part of the project.

The client wanted to improve its internal testing processes by:

- Capturing testing activity requirements in the form of plans and results more effectively
- Achieving rapid closure by managing defects and issues
- Obtaining improved project management through transparency and improved reporting systems

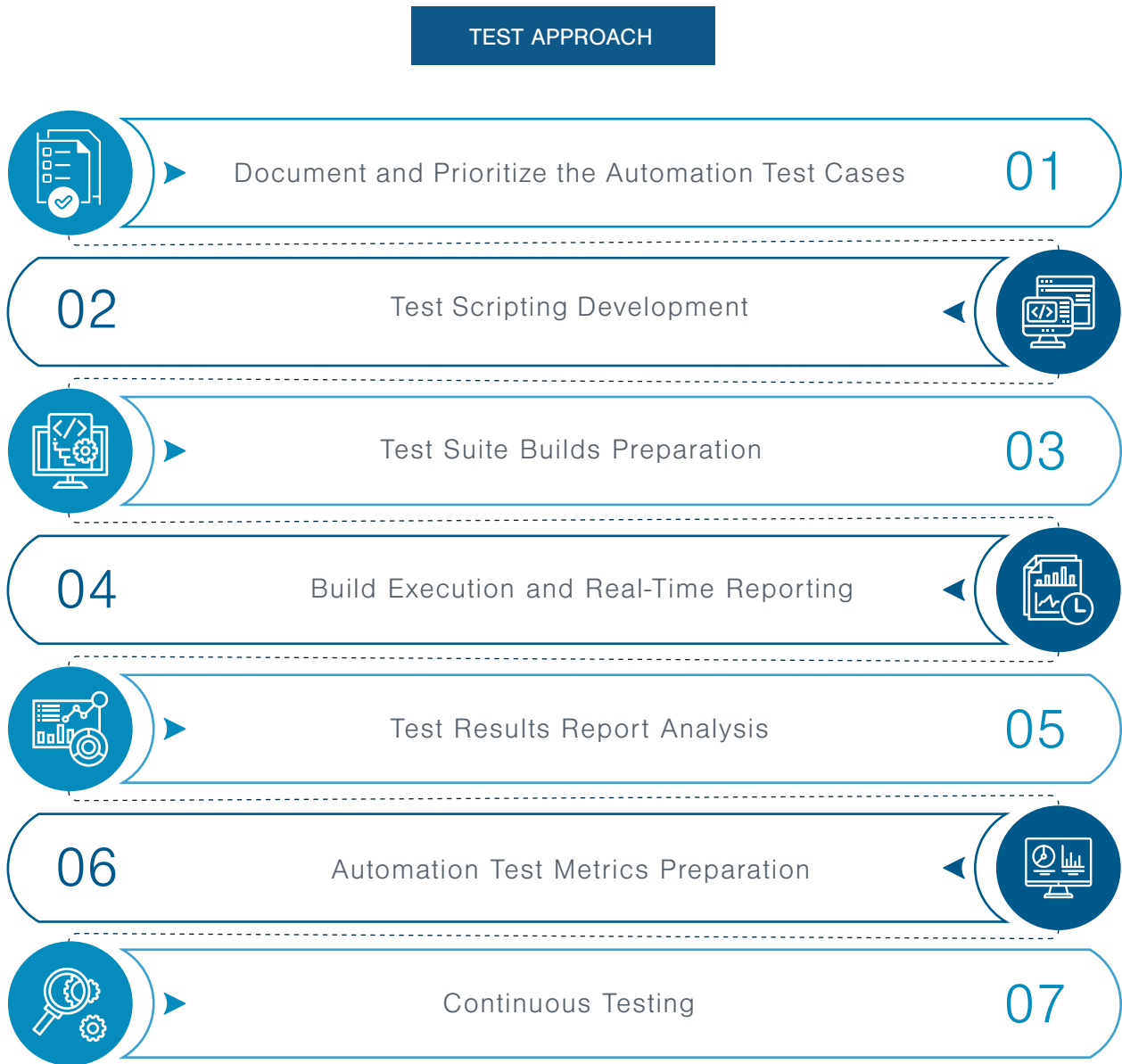
THE SOLUTIONS

XTGlobal collaborated with the client's development team to perform a root cause analysis for identifying issues and then resolved them with permanent fixes. An offshore testing team comprising of domain and technical experts was set up to understand the client's testing requirements and to offer client-specific, business-critical solutions. Customized and flexible demand-based service models were configured after obtaining KT from onsite SMEs. Test cases and test scenarios were documented by best domain and industry testing experts in multiple brainstorming sessions. After gathering the required information on jobs and applications, the XTGlobal testing team automated the process for a quick data setup and end-to-end testing practices with set guidelines.



TECHNOLOGIES USED

The following approach was used to create a continuous testing environment:



TOOLS AND TECHNOLOGIES



OUTCOMES

Since the issues were fixed and a testing process was developed, the project was completed on time and there was significant reduction in rework.

PRODUCTIVITY

- ▶ Reduction in test cycle time
- ▶ Faster test design and execution
- ▶ Automated regression testing
- ▶ More efficient knowledge transition
- ▶ On-site/offshore set up with teams that complemented each other in terms of time zones
- ▶ Complementary on-site/offshore time zones improving the time-to-market situation
- ▶ A dedicated testing team to handle all kinds of testing requirements
- ▶ Domain and technical experts to understand client's testing requirements and to offer client-specific, business-critical solutions

QUALITY

- ▶ Root cause analysis for identifying issues and resolving them with permanent fixes
- ▶ Automation of total regression test cases using Selenium and Java
- ▶ Reduction in overall testing time and improvement in quality
- ▶ Reduction in rework
- ▶ Creation of an automated process for quick data setup
- ▶ End-to-end testing practices with set guidelines
- ▶ Improved efficiency of defect removal and defect leakage
- ▶ Better metric and reporting standards
- ▶ Broader testing coverage

COST

- ▶ 30% reduction in estimated costs through internally managed resources
- ▶ Savings in software testing costs
- ▶ Low on-site ratio leading to cost reduction
- ▶ Early ROI because of faster time to market



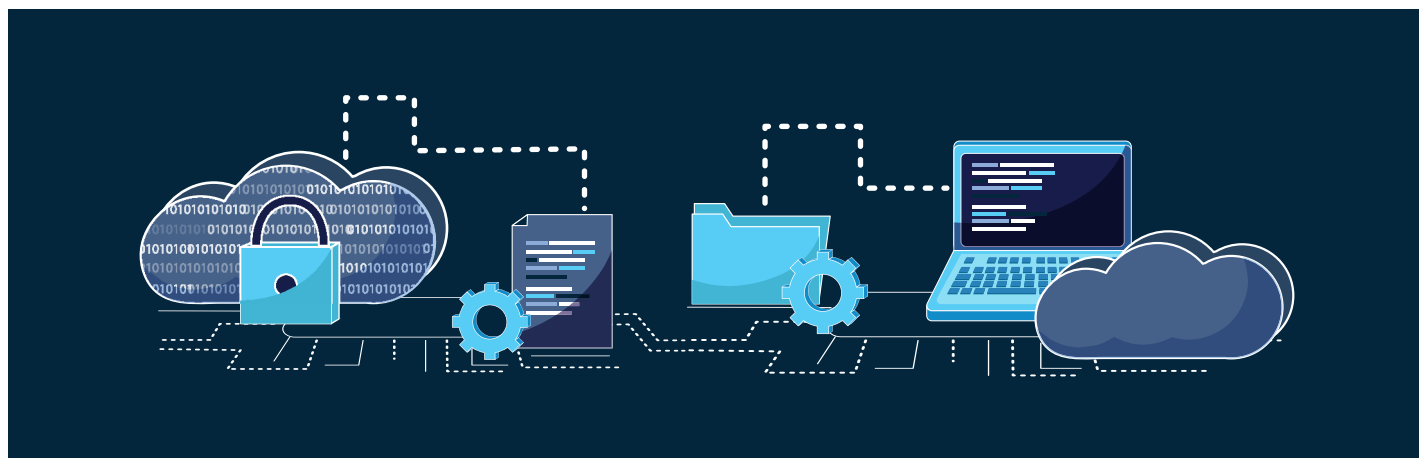
30% Reduction in Estimated Costs



Achieved Defect Removal Efficiency of >98%




Kept the Defect Leakage at <2%



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